Having thus described the invention, it is now claimed:

1. A frequency modulated spread spectrum clock generator comprising:

a clock input adapted for receiving a clock signal having a generally constant frequency;

a digital delay having,

a delay input coupled to the clock input,

a data input adapted for receiving a delay data representative of a selected delay, which delay data is encoded in a frequency modulation patterns, and

a clock output providing a modified clock signal wherein the frequency thereof is adjusted in accordance with the delay data; and

a numeric sequencer coupled to the clock input and adapted for generating the delay data.

2. The spread spectrum clock generation of claim 1 wherein the numeric sequencer includes a binary counter for generating a binary output sequence.

3. The spread spectrum clock generation of claim 2 wherein the numeric sequencer further includes a pattern generator receiving the binary output sequence from the binary counter, and wherein the pattern generator generates the delay data as a function of the binary output sequence.

4. The spread spectrum clock generator of claim 3 wherein the modified clock signal has a frequency range between $1/(T-N\Delta)$ and $1/(T+N\Delta)$, wherein T is defined as a period of the clock input signal, N can be any number greater than 1, and Δ is defined as a unit of the selected delay.

5. The spread spectrum clock generator of claim 4 wherein the frequency range of the modified clock signal linearly alternates between $1/(T-N\Delta)$ and $1/(T+N\Delta)$.

6. The spread spectrum clock generator of claim 5 further comprising a signal conditioner adapted for receiving the modified clock signal and generating a conditioned clock signal therefrom.

7. The spread spectrum clock generator of claim 6 wherein the signal conditioner further comprises a frequency multiplier.

8. The spread spectrum clock generator of claim 7 wherein the signal conditioner includes a phase lock loop.

9. A frequency modulated spread spectrum clock generator comprising:

means adapted for receiving a periodic clock signal having a generally constant frequency;

a frequency divider for generating a lower frequency clock signal from a received periodic clock signal;

a programmable digital delay line adapted to receive the lower frequency clock signal, and including means provide a selected delay to the lower frequency clock signal in accordance with a received digital delay value so as to form a varying frequency clock signal;

a counter for generating a pre-selected digital sequence;

a pattern generator adapted for generating the digital delay value in accordance with the pre-selected digital sequence encoded as frequency modulation data;

a frequency multiplier for increasing a frequency of the varying frequency clock signal so as to generate a spread spectrum clock signal; and

means adapted for communicating the spread spectrum clock signal to an associated digital device.

10. The spread spectrum clock generator of claim 9 wherein the spread spectrum clock signal has a frequency range between $1/(T-N\Delta)$ and $1/(T+N\Delta)$, wherein T is defined as a period of the clock input signal, N can be any number greater than 1, and Δ is defined as a unit of the selected delay.

11. The spread spectrum clock generator of claim 10 wherein the frequency range of the spread spectrum clock signal linearly alternates between 1/(T-NΔ) and 1/(T+NΔ).

12. The spread spectrum clock generator of claim 11 wherein the frequency range of the spread spectrum clock signal varies from -.2% to +.2% of the periodic clock signal.

13. The spread spectrum clock generator of claim 12 wherein the pattern generator includes means for generating the digital delay value in accordance with values disposed in a pre-selected truth table.

14. The spread spectrum clock generator of claim 11 wherein the counter operates synchronously with the periodic clock signal.

15. A method of spreading a spectrum of an electromagnetic interference generated by an integrated circuit comprising:

receiving a clock signal having a generally constant frequency;

generating a low frequency clock signal in response to the received clock signal;

generating selected numeric output data representative of a selected numeric sequence, the numeric output data being representative of a frequency modulated patterns generated in response to the received clock signal; and

generating a varying frequency clock signal from the low frequency clock signal, the varying frequency clock signal having a delay set in accordance with the selected numeric output sequence.

16. The method of spreading a spectrum of claim 15 wherein the step of generating selected numeric output data includes:

incrementing a counter data in response to the received clock signal;

generating a pattern data that corresponds to the counter data; and

generating the selected numeric sequence in accordance with the pattern data.

17. The method of spreading a spectrum of claim 16 wherein the step of generating pattern data includes generating the varying frequency clock signal in accordance with values associated with a pre-selected truth table.

18. The method of spreading a spectrum of claim 17 wherein the varying frequency clock signal has a frequency range between $1/(T-N\Delta)$ and $1/(T+N\Delta)$, wherein T is defined as a period of the clock input signal, N can be any number greater than 1, and Δ is defined as a unit of the selected delay.

19. The method of spreading a spectrum of claim 18 wherein the frequency range of the varying frequency clock signal linearly alternates between $1/(T-N\Delta)$ and $1/(T+N\Delta)$.

20. The method of spreading a spectrum of claim 19 wherein the frequency range of the varying frequency clock signal varies from -.2% to +.2% of the periodic clock signal.